

USSR / Microbiology. Industrial Microbiology.

F-3

Abs Jour : Ref Zhur - Biol., No 20, 1958, No. 90782

Author : Velikaya, Ye. I.; Mal'tsev, P. M.

Inst : Not given

Title : Influence of Slight Turbidity of Beer Wort on the Vital Activity of Yeast

Orig Pub : Mikrobiologiya, 1957, 26, No 5, 597-601 (res. Eng.)

Abstract : According to the morphological characteristics of yeast cultivated in beer wort with a slight highly dispersed turbidity at 30 degrees (instead of the usual 7 - 9 degree temperature for these yeast), they did not differ from yeast cultivated in clear wort obtained after filtration of the suspension. Coefficients of the propagating yeast in the turbid wort were always higher than in the clear wort. Alcohol was formed at an identical rate in both cultures, but at the end of the experiment there was 0.02 -

Card 1/2

MAL'TSEV, P.M.; ZHEREBTSOVA, N.A.

Inactivation of amylolytic enzymes in media of varying activity.
Spart. prom. 23 no.3:6-9 '57. (MLRA 10:6)

1. Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti
imeni Mikoyana.

(Enzymes)

ZHEREBTSOV, N.A.; MAL'TSEV, P.M.

Effect of active acidity on the stability of amylolytic
ferments and alcohol yield in the fermenting of corn mash.
Trudy KTIPP no.17:49-55 '57. (MIRA 13:1)
(Alcohol) (Fermentation)

ZHEREBTSOV, N.A.; MAL'TSEV, P.M.

Regulating the pH of the fermenting medium as a means of
cutting malt consumption in alcohol production. Trudy KTIPP
no.17:45-48 '57. (MIRA 13:1)
(Distilling industries)

TOMASHEVICH, V.K.; MAL'TSEV, P.M.

Changes occurring in nitrogen substances in the malting process
of some high-quality Ukrainian barleys. Trudy KTIPP no.17:
35-44 '57. (MIRA 13:1)
(Ukraine--Barley) (Malt)

TOMASHEVICH, V.K.; MAL'TSEV, P.M.

Chemical and biochemical characteristics of some high-quality
Ukrainian barleys. Trudy KTIPP no.17:27-34 '57.
(MIRA 13:1)

(Ukraine--Barley)

VELIKAYA, Ye.I.; MAL'TSEV, P.M.

Characteristics of brewer's yeast used in the fermenting of
wort with a thin froth. Trudy KTIPP no.17:21-26 '57.
(MIRA 13:1)

(Yeast) (Brewing)

MAL'TSEV, P. M.

USSR/Chemical Technology - Chemical Products and Their Application. Fermentation Industry, I-27

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63559

Author: Mal'tsev, P. M., Zazirnaya, M. V., Velikaya, Ye. I., Vyal'ko, Ye. F.

Institution: None

Title: Effects of Separation on Qualitative Composition of Beer Wort

Original

Periodical: Tr. Kievsk. tekhnol. in-ta pishchevoy prom-sti, 1953, No 13, 101-105

Abstract: Studies of qualitative changes in turbid beer wort on 5-minute centrifugation in laboratory precipitation centrifuge at 2,000 RPM. The indexes thus obtained are compared with those of clear wort (CW) collected from outlet of filter-press after filtration of turbid liquor that was concurrently subjected to separation. Residue of insolubles in CW was the same within 0.01-0.03 g/100 ml. Turbidity of separated CW is almost 2 times less due to more complete removal of colloids both prior to and after hop treatment of the wort. Color and pH of CW are the same. Protein content and dextrin content of CW are practically the same.

Card 1/1

MAL'TSEV, P. M.

"Technology and Equipment in the Brewing Industry." Sub 21 Feb 51, Moscow
Technological Inst of the Food Industry.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55.

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>Colloid-chemical properties of beer and processes in brewing. P. M. Mal'tsev. Gosudarst. Nauch.-Issledovatel. Inst. Kolloid. Khim., Tekhnol. Protessy i Kontrol Pishchevol Ind. 1938, 94-123.—Colloid-chem. problems involved in malting, solubilizing the malt with enzymes, boiling and cooling the wort, fermenting, and the final prepn. of beer are discussed. For detg. the colloid content of beer the quant. coagulation method, with a ternary solvent ($H_2O-EtOH-R_2O$), was found superior to dialysis, adsorption and ultramicroscopic examn. This method, described by Dumanskil and Kharin (C. A. 32, 16221⁹), has been adapted to analysis of beer, for which a diagram (triangular coordinates) is shown. Numerical data are presented to show the influence of concn., solvent compn., temp., pH, ash content and quantity of wash solvent on the detn. The physicochem. properties of beer colloids (peptization, sp. gr., hydrophilic behavior, light absorption, refraction and dispersion, surface tension and electric charge) are described. The colloid content of beer can also be detd. by pycnometric and refractometric methods. The colloidal aspects of brewing are important and deserve continued research. I. F. S.</p>																										<p>17</p>																									
A18.51A DETAILING LITERATURE CLASSIFICATION																										A18.51A DETAILING LITERATURE CLASSIFICATION																									

Physico-chemical properties of beer colloids. S. E. Kharin and P. M. Mal'tsev. Colloid J. (U. S. S. R.) 3, 75-80 (1967). The colloids (cf. C. A. 30, 6504^g) were peptized in H₂O. They are hydrophilic and pos. The d., viscosity, f. p., n, light absorption, turbidity and surface tension of their aq. solns. were measured. A similarity to dextrin solns. was observed. R C A

Physico-chemical properties of beer colloids. S. E. Kharin and P. M. Mal'tsev. *Colloid J. (U. S. S. R.)* 3, 75-80 (1947). The colloids (cf. C. A. 30, 6504) were peptized in H₂O. They are hydrophilic and pos. The η , viscosity, f , p., n , light absorption, turbidity and surface tension of their aq. solns. were measured. A similarity to dextrin solns. was observed. R. C. A.

ASD-56A METALLURGICAL LITERATURE CLASSIFICATION

MAL'TSEV, P.I.; ZUBKOV, V.D.

Disassembling the "Mosbass" shield without removal of supports in
the area. Ugol' 35 no.11:37-40 N '60. (MIRA 13:12)

1. Shakhta No 4 "Bagichevskaya" tresta Kalinimugol', Tul'skiy
sovdarkhoz. (Mine timbering)

CHURAYAN, A., kand. tekhn. nauk; DZHABUA, Sh., kand. tekhn. nauk;
KOCHESHKOV, V., inzh.; MAL'TSEV, P., inzh.

Sealed joints of elements of earthquake-proof large-panel
buildings. Zhil. stroi. no.12:20-21 '62. (MIRA 16:1)

(Earthquakes and building)
(Building---Details)

MAL'TSEV, P.; IVANOVA, M.

A health resort of great importance to the entire Union. Zhil.-koma.
khoz. 9 no.8:8-10 '59. (MIRA 12:11)

1. Zaveduyushchiy gorkomkhozom g. Sochi (for Mal'tsev).
2. Starshiy inzhener gorkomkhoza g. Sochi (for Ivanova).
(Sochi--Municipal services)

ACC NR: AP7002651 (A,N) SOURCE CODE: UR/0413/66/000/023/0208/0208

INVENTOR: Mal'tsev, O. P.; Pavlov, B. S.

ORG: None

TITLE: Working model to simulate motion of an artificial earth satellite. Class 42, No. 147845

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 208

TOPIC TAGS: model, artificial earth satellite, astronomy, *satellite motion*

ABSTRACT: This Author's Certificate introduces: 1. A working model which simulates motion of an artificial earth satellite. The unit contains a globe and a model of the satellite on a bracket rotated by individual electric drives. The model has a replaceable template with a guide slot to simulate an elliptical orbit and rotation of the major semiaxis in the orbital plane. This template is fastened to the gear in the speed reducer of the satellite drive which is coaxial with the output half-axle of the speed reducer. The model is also furnished with a cantilever extension of the satellite bracket with a pin which moves in the slot of the template for reciprocating motion of the bracket simultaneously with its rotation. 2. A modification of this model in which the rate of motion of the satellite is varied at perigee and apogee to conform with Kepler's law of constant sectoral velocity. A variable resistor is mounted on the cantilever extension and connected to a control circuit with the sliding contact coupled to the output half-axle of the speed reducer.

SUB CODE: 2203/ SUBM DATE: 05Sep61

Card 1/1

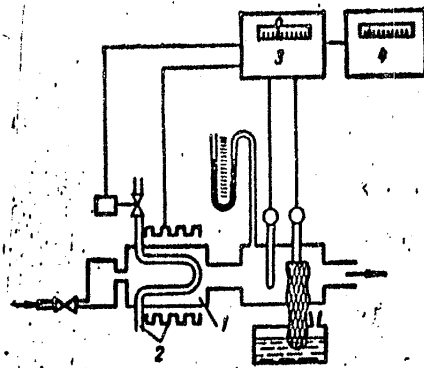
UDC: 523.4(086.5)

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001031900026-6

MAL'TSEV, Orest (Tyumenskaya oblast').

Restless mind. Nauka i pered. op. v sel'khoz. 18 no.2:68-70 P '58.
(Milking) (MIRA 11:3)

ACC NR: AP7005652



1--working chamber; 2--temperature-controlled element;
3--differential electronic bridge; 4--measurement bridge

SUB CODE: 14, 20/ SUBM DATE: 16Apr65

Card 2/2

ACC NR: AP7005652

SOURCE CODE: UR/0413/67/000/002/0106/0106

INVENTOR: Timchenko, B. S.; Mal'tsev, N. Ye.; Skalozub, V. M.

ORG: None

TITLE: An instrument for automatically measuring partial pressure. Class 42,
No. 190630

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 106

TOPIC TAGS: pressure measurement, electronic measurement, temperature instrument

ABSTRACT: This Author's Certificate introduces an instrument for automatically measuring partial pressure. The installation contains a working chamber, valve, filter, psychrometer, differential electronic bridge and measuring instrument. To provide for measuring aggressive and contaminated vapor-gas mixtures, the working chamber is equipped with a temperature-controlled element connected to the input of the differential electronic bridge which is electrically coupled to an electronic measurement bridge with a scale graduated according to the thermodynamic characteristics of titanium tetrachloride at normal pressure. This bridge is connected to the differential bridge when the difference between the wet- and dry-bulb thermometer readings reaches zero.

Card 1/2

UDC: 621.317.39:533.275:531.787.91

TIMCHENKO, B.S.; MAL'TSEV, N.Ye.

System of automatic control of the process of ultrasonic
reduction. TSvet. met. 37 no.11:24-27 N '64. (MIRA 13:4)

DOROGOSTAYSKIY, Dmitriy Vital'yevich, prof., doktor tekhn. nauk;
ZHUCHENKO, Mikhail Melet'yevich; MAL'TSEV, Nikoley
Yakovlevich. Printsip nauki GRIGOR'YEV, Ya.N., inzh.;
FISHER, A.S., inzh., retsenzent; FELD, Ye.G., inzh.,
retsenzent; OSVENSKAYA, A.A., red.

[Theory and equipment of ships] Teoriya i ustroystvo sudna.
Leningrad, Sudostroenie, 1964. 508 p. (MLA 17:6)

MAL'TSEV, N.Ya., doktor tekhn.nauk; KOGAN, A.Sh., inzh.

Plotting a diagram of static stability of ships on longitudinal
waves. Sudostroenie 29 no.7:17-19 J1 '63. (MIRA 16:9)
(Stability of ships)

S/827/62/000/000/005/005
D234/D308

26.2/45

AUTHOR: Mal'tsev, N.Ya.
TITLE: Problem of the dynamics of a ship with liquid cargo
SOURCE: Variatsionnyye metody v zadachakh o kolebaniy zhidkosti i tela s zhidkost'yu. Moscow, Vychisl. tsentr AN SSSR, 1962, 237-246

TEXT: The author gives an estimation of the limits of applicability of solutions due to N.M. Moiseyev. The equation for maximum heeling angle has little applicability if the expansion is limited to two terms. The error depends largely on $\gamma i_x / D_h$, where D_h is the stability factor of a ship with frozen liquid, i_x the moment of inertia of the free surface of the liquid with respect to longitudinal axis. Examples illustrating this are given, assuming only one compartment filled with liquid. It is concluded that dynamical parameters of the liquid and the increase of degrees of freedom can be neglected for practical purposes. There are 3 figures. ✓B

Card 1/1

DOROGOSTAYSKIY, D.V. ; MAL'TSEV, N.Ya.; CHERNOV, A.D.

[Principles of shipbuilding] Osnovy sudostroeniia. [Leningrad]
Gos. izd-vo sudostroit. lit-ry, 1952. 296 p. (MLRA 7:4)
(Shipbuilding)

ММ 1754V, N Vo.

KALITSIN, N. Ya.

Monogramma dlia rascheta posleposadochnogo probega samoletov. (Leningrad, Institut inzhenerov grazhdanskogo vozushnogo flota. Trudy, 1935, no.1, p.125-128)

Title tr.: Monograph for determination of the after-landing run of an airplane.

TL725,ALLH 1935

50: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

SYPOCHENKO, G.I. [Sypchenko, G.I.]; MAL'TSEV, N.N. [Mal'tsev, N.N.];
TKACHUK, V.P.; KOVALICHUK, O.S.; MAYVEL'D, V.M.

Application of various methods for measuring acetaldehyde con-
centration in water solutions. Khim. prom.[Ukr.] no.1:54-66
Ja-Mr '65. (MIRA 13:4)

Utilization of Ultrasonics (Cont.)

SOV/5644

- Kukoz, F. I. [Novocherkasskiy politekhn. in-t-Novocherkassk Polytechnical Institute]. Study of the Effect of Ultrasound on the Electrolytic Oxidation of Chromium Sulfate at a Lead Anode 95
- Trofimov, A. N. [MGPI im. Lenina-Moscow State Pedagogical Institute imeni V. I. Lenin]. The Distribution of Metal on a Cathode Surface During Electrodeposition in an Ultrasonic Field 103
- Mal' tsev, N. N., and V. I. Dal' [Dnepropetrovskiy KhTI - Dnepropetrovsk Institute of Chemical Technology]. Using Ultrasound to Intensify Absorption 109
- Mal' tsev, N. N. [Dnepropetrovsk Institute of Chemical Technology]. Study of the Precipitation of Coal Residue From the Circulating Waters of a Coal-Enriching Plant With the Aid of
- Card 4/10

MAL'TSEV, N.N.

Vserossiyskaya konferentsiya po ispol'zovaniyu ultrazvukov
institutev

Primeneniye ul'trazvukov k issledovaniyu veshchestva. vyp. 10. (Utilization
of Ultrasonics for the Investigation of Materials. no. 10) Moscow, Izd-vo
MOPI, 1960. 321 p. 1600 copies printed.

Eds.: V. F. Nozdrev, Professor, and B. B. Kudryavtsev, Professor.

PURPOSE: This book is intended for physicists and engineers interested in
ultrasonic engineering.

COVERAGE: The collection of articles reviews present-day research in the
application of ultrasound in medicine, chemistry, physics, metallurgy, ce-
ramics, petroleum and mining engineering, defectoscopy, and other fields.
No personalities are mentioned. References accompany individual articles.

Card 140

DAL', B. I. and MAL'TSEV, N. N.

"The Effect of Ultrasound in Intensifying the Process of Absorption."

report presented at the 6th Sci. Conference on the Application of Ultrasound in the investigation of Matter, 3-7 Feb 1958, organized by Min. Education RSFSR and Moscow Oblast Pedagogic Inst. im N. K. Krupskaya.

MAL'TSEV, N. N.

MAL'TSEV, N. N.: "The absorption of benzene and the possibility of its intensification by using ultrasonic radiations." Min Higher Education Ukrainian SSR. Dnepropetrovsk Chemicotechnological Inst imeni F. E. Dzerzhinskiy. Dnepropetrovsk, 1956. (Dissertation for the Degree of Candidate in Technical Science).

Source: Knizhnaya letopis' No. 28 1956 Moscow

101

21

THE EFFICIENCY OF RASCHIG PLATES AND THE USUAL CHORD SETTINGS (IN COKE PLANTS). V. I. Dal and N. N. Mal'tsev. *Coke and Chem.* (U. S. S. R.) 8, No. 1, 21 (1938); *Khim. Referat. Zhur.* 1, No. 8-9, 110 (1938). The absorption coeffs. were detd. for different types of Raschig plate rings in two scrubbers (the first and the second gas scrubbers) and for the usual chord settings in the third gas scrubber.

Diffusion through the liquid films was taken as the detg. factor in the calen. The absorption coeff. of Raschig rings is 2.95 times greater, and they are also relatively more compact than the usual chord settings. Acid-resistant settings are not necessary. W. R. Henn

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001031900026-6

10

20

Fireproofing impregnation of fiberboard. N. N. Mal'tsev. *Bumashnaya Prom.* 15, No. 7, 49-53(1937).—The fireproofing of paperboards by impregnation with various chemicals is discussed from the tech. and economic viewpoints. *Chas. Blanc*

ASD SLA METALLURGICAL LITERATURE CLASSIFICATION

MAL'TSEV, N. K.

USSR/Medicine - Tularemia

Jun 53

"The Effect of Massive Doses of Gayskiy's Strain " on the Course of Acute Tularemia in Guinea Pigs," A. V. Mashkov, N. K. Mal'tsev, Moscow Oblast Inst im I. I. Mechnikov

Zhur Mikro, Epid, i Immun, No 6, pp 40-44

Subcutaneous inoculation with large doses of Gayskiy's strain (a vaccine strain of B. tularensis) saves from death the majority of guinea pigs infected with acute tularemia. Massive doses of Gayskiy's strain produce immunity in guinea pigs within 24 hrs, but large doses (100,000

267rl7

bacterial bodies) of a highly virulent strain overcome this immunity. Within 4 days, the immunized animals acquire resistance to such doses of the virulent strain. Simultaneous infection of guinea pigs with a large dose of Gayskiy's strain and a sufficiently small dose of a virulent strain does not result in death.

GRIGOROV, R.I.; GRIGOROV, L.M.; GRIGOROV, M.I.

Origin of oxygen of the carbonyl group of the product in the course of reductant-catalyzed transposition reactions. Dokl. AN SSSR 166 no. 5:1192-1195 D '65. (MIRA 1963)

1. Institut khimii prirodykh soedineniy AN SSSR. 2. Depozitsionnyy otchet AN SSSR (for Orehovsk). Submitted February 12, 1965.

MAL'TSEV, N.I.; GINÖDMAN, L.M.; OREKHOVICH, V.N.

N-terminal amino acids and the catalytic activity of pepain obtained from pepsinogen under different activation conditions. Dokl. AN SSSR 149 no.6:1442-1445 Ap '63. (MIRA 16:7)

1. Institut khimii prirodnikh soyedineniy AN SSSR. 2. Deystvitel'nyy chlen AMN SSSR (for Orekhovich).
(Pepsin) (Pepsinogen) (Amino acids)

STAROSKOL'SKIY, A.A.; KUZ'MIN, S.N.; MAL'TSEV, N.D., retsenezent;
AKSENOVA, I.I., red.; TRISHINA, L.A., tekhn. red.

[Chemical plants for dyeing and finishing processes] Khimi-
cheskie stantsii krasil'no-otdelochnogo proizvodstva. Mo-
skva, Rostekhnizdat, 1962. 185 p. (MIRA 15:11)
(Dyes and dyeing--Apparatus) (Textile finishing)

MAL'TSEV, N.D., inzh.; AGAPOVA, O.I.

Analysis of sulfur dyebathes . Tekst.prom. no.2:61-62 F '63.
(MIRA 16:4)

1. Starshiy inzhener khimicheskoy laboratorii kombinata "Krasnaya Roza"
(for Agapova).
(Dyes and dyeing--Chemistry)

MAL'TSEV, N.D.; AGAPOVA, O.I., khimik

Use of "chromolan" for imparting waterproofing properties
to textile fabrics. Tekst.prom. 20 no.5:18-20
My '60. (MIRA 13:8)

1. Glavnyy inzhener Semenovskoy krasil'noy otdelochnoy
fabriki (for Mal'tsev). 2. Semenovskaya krasil'naya
otdelochnaya fabrika (for Agapova).
(Waterproofing of fabrics)

MAL'TSEV, N.D.

Imparting crease resistance to color-woven staple fabrics.
Tekst.prom. 19 no.2:43-46 F '59. (MIRA 12:5)

1. Glavnyy inzhener Semenovskoy krasil'no-appreturnoy fabriki.
(Textile finishing) (Crease-resistant fabrics)

MAL'TSEV, N.D.; AGAPOVA, O.I., khimik.

Loss of strength in sulfur black-dyed cotton fabrics. Tekst. prom.
17 no.7:37-40 JI '57. (MLRA 10:9)

1. Glavnyy inzhener Semenovskoy krasil'no-otdelochnoy fabriki (for
Mal'tsev).
(Dyes and dyeing--Cotton) (Cotton fabrics--Testing)

MAL'TSEV, N.D.

Loop drier. Obm. tekhn. opyt. [MLP] no.11:46-48 '56. (MIRA 11:11)
(Drying apparatus--Textile fabrics)

MAL'TSEV, N.D., inzhener; MATUSEVICH, L.M., inzhener; STAROSKOL'SKIY, A.A.,
inzhener.

Increasing the quality of stockings made from mercerized yarn.
Leg.prom. 14 no.6:32-33 Je '54. (MLRA 7:8)
(Hosiery)

MAL'TSEV, N.D.; STAROSKOL'SKIY, A.A.

Problem of mercerizing yarn. Tekst.prom.14 no.1:35-37 Ja '54.
(MLRA 7:2)

1. Glavnyy inzhener Semenovskoy krasil'no-appreturnoy fabriki (for Mal'tsev).
2. Starshiy inzhener Tekhnicheskogo upravleniya Ministerstva promyshlennykh tovarov shirokogo potrebleniya RSFSR (for Staroskol'skiy).
(Mercerization)

MAL'TSEV, M. D.

7685. MAL'TSEV, M. D. I. STAROSKOL'SKIY, A. A. --Krasil'nyy tsentrifugal'nyy aparat KTSV-120. M., (Gizlegprom, 1954.52 SS chert; 2 Lichert. 20 sm. 3.000 ekz. 1 R. 30 K.- (55-4202)p 677.027:667.2

SO: Khizhmaya Letopis', Vol. 2. 1955

1ST AND 2ND GROUPS																										3RD AND 4TH GROUPS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>Use of sulfuric acid for pretreating textiles. N. D. <i>Vel'sev. Tekstil. Prom. 3, No. 9, 16-17 (1943). H₂SO₄, pretreatment of textiles for dyeing (100 g. of H₂SO₄, 52° H₂, per 90 l. of H₂O), bleaching multicolored fabrics in the cold (0.5 g. per l.), and several other textile treatments is advantageous.</i> M. Hosh</p>																																																			
COMMON ELEMENTS																										COMMON ELEMENTS																									
MATERIALS INDEX																										MATERIALS INDEX																									
ASB-SCA METALLURGICAL LITERATURE CLASSIFICATION																																																			
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1ST AND 2ND GROUPS																																																			

MALTSEV, N.; ^{D'}STAPOSKOLSKII, A.

Problem of mercerization of yarn. p. 39.
LEKA PROMISHLENOST. Vol. 5, no. 7, 1957.
Sofia, Bulgaria

SOURCE: East European Accessions List, (EEAL) Library of
Congress, Vol. 6, no. 1, January 1957

L 02323-67

ACC NR: AR6022706

SOURCE CODE: UR/0299/66/000/002/R023/R023

AUTHOR: Mal'tsev, N. A.; Miftakhutdinova, F. G.; Fedotov, V. D. 36
B

TITLE: Nature of the state of water in live plant tissues determined by a nuclear magnetic resonance pulse method

SOURCE: Ref. zh. Biologiya, Part I, Abs. 2R155

REF SOURCE: Uch. zap. Kazansk. un-t, v. 124, no. 7, 1965, 20-28

TOPIC TAGS: plant physiology, water, ~~cell physiology~~, nuclear magnetic resonance, spin lattice relaxation, spin resonance, PLANT MORPHOLOGY

ABSTRACT: It has been demonstrated that the spin echo technique is adequate for investigating the state of water in plant tissues. Spin-spin and spin lattice relaxation time and also the self-diffusion coefficient have been measured by this method in plant matter. On the basis of the results it appears that the tissue water is surrounded by a field of molecular and supermolecular forces determined by the cell structures; this denies the existence of free water in a plant cell. On the basis of the self-diffusion coefficient values found for tissue water, it is concluded that the coefficient is determined first of all by the type of tissue, and not by the absolute moisture content. A. Zamyatnin. Translation of abstract 7.

UDC: 577.3

Card 1/1 SUB CODE: 06, 18

MALITSEY, H.A., 2nd. 1964

Thermal nature of the atmosphere for the year 1965
Ap 1965.

1. Kazanskiy yuzhno-tyumenskiy univ. im. V.I. Lenina.

ALABOVA, S.A.; KURKATOV, N.B.; GILERO, S.S.; TRAKOV, I.I.;
MARTIN, R.A.

Industrial testing of the chlorination of vanadium containing
fused aluminum slag. Izv. vuzovskikh khim. zavodov, 1964, 16, 167.
(1964-1965)

I. Varnishy politekhnicheskoy i khimicheskoy laboratorii
zaved. Submitted November 2, 1964.

MAL'TSEV, N.A.

Structural temperature of living tissues. Dokl. AN SSSR 156 no. 3:
695-697 '64. (MIRA 17:5)

1. Biologicheskii institut Kazanskogo filiala AN SSSR. Pred-
stavleno akademikom B.A.Arbuzovym.

MAL'TSEV, N.A.

Electric welding of copper blast furnace tuyere. Avtom. svar. 15
no.2:66-68 F '62. (MIRA 15:1)

1. Artemovskiy zavod "TSvetmet".
(Blast furnaces--Equipment and supplies) (Pipe, Copper--welding)

MAL'TSEV, N.A., inzh.

Automatic welding of air tuyeres in blast furnaces.
Mashinostroenie no.1:62-66 Ja-F '62. (MIRA 15:2)

1. Artemovskiy zavod "TSvetmet."
(Blast furnaces--Equipment and supplies)
(Electric welding)

MAL'TSEV, N.A.

Reconditioning of pulleys on mine headframes. Avtom. svar. 14
no.4:69-70 Ap '61. (MIRA 14:4)

1. Artemovskiy zavod "TSvetmet".
(Pulleys—Maintenance and repair)
(Hard facing)

22950

S/125/61/000/007/006/013
D040/D112

New electrode wire grades...

V.A. Sabayev and T.A. Mal'tseva (the "Tsvetmet" Plant). There are 7 figures, 8 tables and 3 Soviet-bloc references.

ASSOCIATION: Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O. Paton AS UkrSSR) (I.I. Frumin and M.M. Nerodenko); Makeyevskiy metallurgicheskii zavod im. S.M. Kirova (Makeyevka Metallurgical Plant im. S.M. Kirov) (M.M. Finkel'shteyn); Artemovskiy zavod "Tsvetmet" (Artemovsk "Tsvetmet" Plant) (N.A. Mal'tsev)

SUBMITTED: January 20, 1961

Card 5/5

New electrode wire grades...

22950
S/125/61/000/007/006/013
DC40/D112

(%)	C	Mn	Si	Cr	W	V	S	P
	0.42	0.77	1.11	3.41	2.61	0.43	0.036	0.023
	0.40	0.78	1.11	3.36	2.63	0.43	0.037	0.025

The wear resistance of 4Kh2G2V coating had insufficient wear resistance, and 4Kh3G2F even lower. Rolls surfaced with 4Kh3G2F wire withstood as long a service time as rolls surfaced with PP-3Kh2V8, but the wear of the former was greater and endurance (t/mm) lower. Thus, the best results were obtained with 5Kh4V3F wire. After the rolls had been surfaced with this wire it was found possible to increase the cutting speed by 20-25% compared with rolls coated with PP-3Kh2V8 powder wire. The new wire-drawing technology is recommended for mass application. The following participated in the development of the new wire and techniques: A.V. Mel'nik and Ye.N. Morozovskaya (Electric Welding Institute im. Paton); Yu.P. Dolgoker, V.N. Pashutin, G.V. Mal'kov, V.A. Polstyanyov, and L.B. Dolmat (Plant im. S.M. Kirov);

Card 4/5

22950

S/125/61/000/007/006/013
D040/D112

New electrode wire grades...

any intermediate reheats and pickling quite unnecessary. Shop technology for hot drawing was developed at the Khartsyzskiy stateprovolochno-kanatnyy zavod (Khartsyzsk Steel Rope Plant) on the suggestion of Engineer V.A. Chepinog. In this method an approximately 5m-long section of the wire is electrically heated to 480-500°C in front of the die plate and the current is adjusted in steps for different drawing speeds; a 6.5 mm rod can be reduced in seven passes to 3.5 mm in diameter, the drawing speed increasing from 35 m/min in the first passes to 250 m/min in the last. A new graphite lubricant greatly reduces friction in the die and ensures that the wire runs correctly over the drum. A minimum of graphite is left on the ready wire. Surfacing is produced with the use of standard AH-20 (AN-20) flux.

[Abstracter's note: The new graphite lubricant and AN-20 flux are not further specified]. Rolls surfaced by the new wire grades were tested in operation in two continuous billet mills, the "630" and the "450", at the Makeyevka plant. The rolls were preheated by induction current to 350-400°C for surfacing and then cooled slowly in heat-insulated boxes. Metal deposited with 5Kh4V3F wire had the best wear-resistance. Its composition (determined on two rolls at the Makeyevka Plant) was (Table 6):

Card 3/5

22950

S/125/61/000/007/006/013
D040/D112

New electrode wire grades...

and 4X3Г2Ф (4Kh3G2F). The first heat of 4Kh4V3F had a higher carbon content than intended and was re-named - "5Kh4V3F". The chemical composition of the first three is (Table 1):

	(%)	C	Mn	Si	Cr	W	V	Ni	S	P
4Kh4V3F	0.35-0.45	0.8-1.2	0.7-1.0	3.6-4.1	2.5-3.0	0.2-0.4	<0.3	<0.04	<0.04	
4Kh2G2V	0.35-0.45	2.2-2.7	0.4-0.7	2.2-2.7	0.8-1.7	-	<0.3	<0.04	<0.04	
4Kh3G2F	0.35-0.45	1.3-1.8	0.4-0.7	3.4-3.6	-	0.5-0.8	<0.3	<0.04	<0.04	

Wire was drawn at the "Tsvetmet" Plant in a vertical 20-ton drawing machine with an 800 mm-diameter drum at a drawing speed of 35 m/min. Electric heating current was fed from a TCD-1000 (TSD-1000) welding transformer to the die plate and wire with the use of a roller slip ring. Colloidal graphite was used for lubricant. The distance from the current-feed point to the die and the strength of the current were selected so that the wire was heated to 600°C. One "annealing" pass with this heating was stated to make

Card 2/5

22950

S/125/61/000/007/006/013
D040/D112

1-2300

AUTHORS: Frumin, I.I., Nerodenko, M.M., Finkel'shteyn, M.M., Mal'tsev, N.A.

TITLE: New electrode wire grades for wear-resistant surfacing

PERIODICAL: Avtomaticheskaya svarka, no. 7, 1961, 54-64

TEXT: Surfacing wire grades used presently in mechanical surfacing of machine parts at 40 Soviet metallurgical plants are 30XГСА (30KhGSA) for restoring dimensions, and ПП -3X288 (PP-3Kh2V8) powder-metal wire or its equivalent high-alloy 9H701 (EI701) wire for wear-resistant coatings. The 3Kh2V8 metal deposits are difficult to machine and crumble in the rolling mill. rolls before they wear off. This was the reason for joint experiments conducted by the Ordena Trudovogo Krasnogo Znameni Institut elektrosvarki im. Ye.O. Patona AN USSR (Electric Welding Institute "Order of the Red Banner of Labor" im. Ye.O. Paton of the AS UkrSSR), Makeyevskiy metallurgicheskiy zavod im. S.M. Kirova (Makeyevka Metallurgical Plant im. S.M. Kirov) and "Tsvetmet" Plant in Artemovsk. Three steel grades were selected for the experiments - 4X4B3Φ (4Kh4V3F), 4X2Г2B (4Kh2G2V),

Card 1/5

Using powdered tungsten for powder wire ...

22943
S/125/61/000/006/007/010
DO40/D112

ASSOCIATION: Artemovskiy zavod "Tsvetmet" (Artemovsk "Tsvetmet" Plant).

SUBMITTED: January 14, 1961

Card 3/3

X

22943

S/125/61/000/006/007/010
D040/D112

Using powdered tungsten for powder wire ...

Components	Weight portions	C	Mn	Si	Cr	W	V	Ti	Al	% in the mixture
08x15 mm strid	67.5	0.08	0.28	0.01	-	-	-	-	-	
Tungsten powder	10.0	-	-	-	-	10.0	-	-	-	30.8
Ferrochromium	4.72	0.38	-	0.12	3.1	-	-	-	-	14.5
Ferromanganese	0.92	0.06	0.7	0.01	-	-	-	-	-	2.83
Ferrotitanium	3.62	-	0.05	0.14	-	-	-	0.9	0.25	11.1
Sodium fluo- silicate	0.5	-	-	-	-	-	-	-	-	1.6
Ferrovandium	0.97	-	-	0.01	-	-	0.35	-	-	2.97
Iron powder	11.77	0.02	0.05	0.06	-	-	-	-	-	36.2
T o t a l	100.00	0.54	1.08	0.35	3.1	10.0	0.35	0.9	0.25	100.00

The chemical composition of metal deposited with this wire (in CO₂): 0.46% C, 0.8% Mn, 0.3% Si, 3.0% Cr, 9.9% W, 0.34% V, 0.32% Ti. Tungsten powder of Γ (G) grade produced by the "Elektrotsink" plant is recommended for use (corresponds to BTY 5-12-59 [VTU 5-12-59] standard specifications). [Abstracter's note: Essentially full translation.]

Card 2/3

1.2300

22943
S/125/61/000/005/007/010
D040/D112

AUTHOR: Mal'tsev, N. A.

TITLE: Using powdered tungsten for powder wire for automatic surfacing

PERIODICAL: Avtomaticheskaya svarka, no. 6, 1961, 56-57

TEXT: The Institut elektrosvariki im. Ye. O. Patona (Electric Welding Institute im. Ye. O. Paton) has developed a method for alloying surfacing metal by powder metals in powder welding wire, and many Soviet plants are now using the method. The preparation of powders from ferroalloys used for wire causes no difficulties, except for ferrotungsten. It has to be thrice heated to 1100°C and quenched in running water, and the available ball mills can grind not more than 15-20 kg ferrotungsten per shift. The difficulties have been eliminated at the "Tsvetmet" plant by replacing ferrotungsten with tungsten powder. The chemical composition of one powder wire grade, 4X288T (4Kh2V8T) is given:

Card 1/3

X

PHASE I BOOK EXPLOITATION SOV/5078

Akademiya nauk USSR, Kiev. Instytut elektrozvaruvannya

Vnedreniye novykh sposobov svari v promyshlennosti; sbornik statey.
vyp. 3. (Introduction of New Welding Methods in Industry; Col-
lection of Articles. v. 3) Kiev, Gos. izd-vo tekhn. lit-ry
UkrSSR, 1960. 207 p. 5,000 copies printed.

Sponsoring Agency: Ordена Трудового Красного Знамени Institut
elektrozavarki imeni akademika Ye. O. Patona Akademii nauk
Ukrainskoy SSR.

Ed.: M. Pisarenko; Tech. Ed.: S. Matusevich.

PURPOSE: This collection of articles is intended for personnel in
the welding industry.

COVERAGE: The articles deal with the combined experiences of the
Institut elektrozavarki imeni Ye. O. Patona (Electric Welding
Institute imeni Ye. O. Paton) and several industrial enterprises
in solving scientific and engineering problems in welding
technology. Problems in the application of new methods of me-
chanized welding and electroslag welding in industry are discussed.

This is the third collection of articles published under the same
title. The Foreword was written by H. Ye. Paton, Academician of
the Academy of Sciences Ukrainian SSR and Lenin prize winner.
There are no references.

TABLE OF CONTENTS:

Ravetskiy, G. V. [Candidate of Technical Sciences and Lenin Prize Winner, Electric Welding Institute imeni Ye. O. Paton]. Ye. O. Paton [Chief Engineer, Uzhgorodskiy (Ukrainian SSR Main Administration for Petroleum Marketing), and Ye. O. Paton [Nach. stroitel'no-montazhnogo] i Ye. O. Paton [Chief of Building and Erection Administration No. 7c] Ministry for Construction, RSPSR] introducing the Method of Rolling-Up Welded Structures in the Petroleum Industry	84
Zarba, I. I. [Candidate of Technical Sciences], and Kutepovskiy, V. V. [Senior Engineer, Electric Welding Institute imeni Ye. O. Paton]. Experience in Introducing Automatic and Semiautomatic Carbon-Dioxide Shielded Welding	90
Medozar, B. I., A. G. Potap'yevskiy, P. A. Ratin [Senior Engineer], S. V. Yungel [Head of Welding Laboratory, Stalingradskiy filial' Gipronostemasha (Stalingrad Branch of the State Design and Scientific Research Institute for Pet- roleum Machinery)], and S. A. Zemborg [Chief of Welding Bureau, Stalingradskiy mashinostroitel'nyy zavod imeni Petrova (Stalingrad Machine-Building Plant imeni Petrov)]. Development and Introduction of New Techniques in the Automatic Shielded Flux-Welding of Steel With Chrome Stainless Cladding	99
Podgavetkiy, V. V. [Candidate of Technical Sciences], V. A. Sokolova [Candidate of Technical Sciences], V. A. Subbotovskiy [Senior Engineer, Electric Welding Institute imeni Ye. O. Paton], V. P. Gerasimov [Chief Engineer, Stalingradskiy filial' Gipronostemasha (Stalingrad Branch of the State Design and Scientific Research Institute for Pet- roleum Machinery)], N. A. Rybnikov [Former Chief Mechanic, Magnitogorskii metallurgicheskii kombinat (Mag- nitogorsk Metallurgical Combine)], and N. A. Rybnikov [Chief of Welding Department, Antamorskii metallurgicheskii kombinat (Antamorsk Metallurgical Plant)]. Experience in the Introduction of Mechanized Surfacing in Metallurgy	115

MAL'TSEV, N. A.

137-58-4-7191

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 124 (USSR)

AUTHORS: Mal'tsev, N. A., Karpachev, D. G.

TITLE: Dressing Metal Powder Dies by Oxygen Oxidation (Razdelka metallokeramicheskikh volok okisleniyem kislorodom)

PERIODICAL: Byull. tsvetn. metallurgii, 1957, Nr 14, pp 26-27

ABSTRACT: A description is offered of a method of dressing (D) to a new size metal powder dies (DI) that have worn out of tolerance when the wear has attained 1 mm or more. The D is conducted in a furnace heated to 860°C, O₂ under 0.1-0.2 atm. pressure being introduced into the DI hole, resulting in oxidation of the DI metal. The amount of removal of material required is determined by the time of holding in the furnace. About 15 min are needed to remove 1 mm. The outside of the DI is preserved against oxidation by a steel collar and asbestos. After D, the DI is subjected to finishing. D of metal powder DI by oxidation makes for a considerable increase in labor productivity and makes it possible to save the oxides, which contain materials in short supply.

V. F.

Card 1/1 1. Dies--Maintenance 2. Oxidation--Applications

MAL'TSEV, N.A.; ROMANOV, I.M.; SHARGIN, A.G.

Device for measuring the speed and volume of liquid and gas
flows. Zav. lab. 22 no.9:1114-1116 '56. (MLRA 9:12)

1. Kazanskiy gosudarstvennyy universitet imeni V. I. Ul'yanova-Lenina.
(Flow meters) (Gas meters)

MAL'TSEV, Nikoley Aleksandrovich; KRYLOVA, I., red.

[Material and moral incentives for labor in industry]
Material'noe i moral'noe stimulirovanie truda v pro-
myshlennosti. Moskva, Mysl', 1965. 94 p.
(MIRA 18:2)

MAL'TSEV, Nikolay Aleksandrovich; DEMENT'YEV, V.A., red.; MURASHOVA,
V.A., tekhn. red.

[Wages under socialism] Zarabotnaia plata pri sotsializme. Mo-
skva, Gos. izd-vo "Vysshaia shkola," 1961. 49 p. (MIRA 14:9)
(Wage payment systems)

MAL'TSEV, N. A .

MAL'TSEV, N. A. --- "A New Method of Recording the Volume-Velocity of Blood Circulation Using Coronary Blood Circulation for Investigation."
Kazan' State Medical Institute. Chair of Normal Physiology.
Kazan', 1955. (Dissertation for the Degree of Candidate in Medical Sciences.)

So; Knizhaya Letopis' No 3, 1956

DRITS, M.Ye., kand.tekhn.nauk; MAL'TSEV, M.Ye.; PADEZHNOVA, Ye.M.;
BORDINA, G.M.

Investigating ternary system Mg - Th - Mn alloys. Issl.splav.
tsvet.met. no.2:114-121 '60. (MIRA 13:5)
(Magnesium-thorium-manganese alloys)

I 21291-66

ACC NR: AP6007908

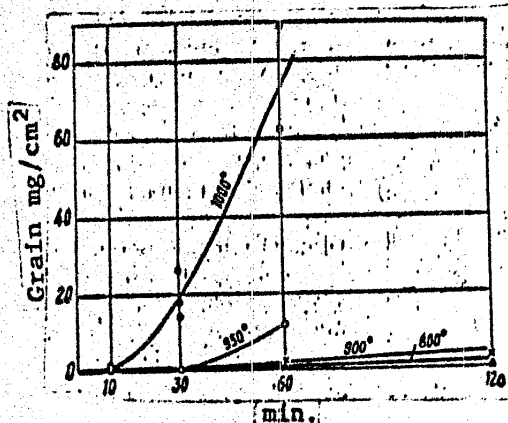


Fig. 1. Effect of temperature and heating time on beryllium oxidation

insignificant because the first oxide film formed protects against oxidation up to 600C. Electron-diffraction analysis showed that no oxide film forms on specimens tested at 300C for 2 hr. Beginning with 400C, an oxide film begins to form. The oxide and the beryllium monoxide have a hexagonal lattice with parameters $a = 2.694 \text{ \AA}$ and $c = 4.392 \text{ \AA}$. The oxide formed at 600, 800, or 1000C has a coarse-grained structure; the grain size increases with increasing temperature and holding time. Orig. art. has: 2 figures. [AZ]

SUB CODE: 11,07 SUBM DATE: 200ct64/ OTH REF: 002/ ATD PRESS: 4222

Card 2/2

L 21291-66 EWP(a)/EWT(m)/EWP(t)/EWT(k) IJP(c) JD/HW/JG/WB
 ACC NRI AP6007908 SOURCE CODE: UR/0149/66/000/001/0116/0118

AUTHOR: Mal'tsev, M. V.; Morozov, L. N.; Zverev, K. P.; Yefremov, Yu. N.

ORG: none

TITLE: Oxidation of beryllium in air at high temperature

SOURCE: 44,55, 14 55, 27 IVUZ. Tsvetnaya metallurgiya, no. 1, 1966, 116-118

TOPIC TAGS: beryllium, beryllium oxidation, oxidation kinetics

ABSTRACT: Disk-shaped beryllium specimens, 16 mm in diameter and 5 mm thick, cut from hot-compacted and extruded beryllium bars which were vacuum annealed at 850C for 2 hr, were tested for oxidation behavior at 300, 400, 600, 800, 900, 950, or 1000C for 0.5, 1, 5, 10, 30, 60, or 120 min. Visual examination revealed no changes in the surface of tested specimens after 120-min testing at temperatures up to 400C; the surface darkened slightly after testing at 600C, and lost brightness after testing at 800C. A thick white layer easily separated from the surface was formed within 5 min at 100C. The weight gain (see Fig. 1) in the first period of testing is

L 13285-66

ACC NR: AP6001108

tainer, valves 1 and 3 are turned to the position "circulation," an airtight gas blower is turned on and the inert gas present in the system is circulated along a closed circuit, undergoing drying in adsorbers A and purification to remove oxygen in retort P filled with Ti or Zr chips and heated to 950°C (even the best grades of argon and helium contain as much as 0.005% oxygen and moisture). After a gas sample is taken for analysis and if the analysis is satisfactory, the gas blower is turned off, the valve is closed, and the container is charged into the furnace. Throughout the process, pressure in the container is maintained at from 20 to 100 mm Hg. Heat treatment of products made of various alloys in a protective atmosphere may be performed in special airtight containers of various design depending on the atmosphere used and the dimensions of the products. It may be performed on a mass scale by employing special continuous muffle furnaces. Such furnaces have an airtight metallic muffle heated by gas, resistance heaters or an inductor, and charging and discharging compartments. The widespread use of heat treatment in protective atmospheres makes it possible to improve the quality of the surface of products and to considerably reduce the proportion of defective products while at the same time dispensing with the labor-consuming operations of cleaning and pickling and eliminating the irretrievable losses of metal due to scaling. Orig. art. has: 2 figures.

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 000/ OTH REF: 000

gettering 18

Card 4/4

L 13285-66

ACC NR: AP6001108

in some cases are not only harmless but also desirable, since they increase tens of times corrosion resistance under atmospheric conditions. Bright annealing of nickel silver and silicon bronze, aluminum bronze and beryllium bronze can be effectively performed in the presence of an exothermic gas prepared from natural, coke, or blast-furnace gas. As a result of previous studies, the authors developed the following protective atmospheres for the oxygen-free heating of Cu alloys: CO-CO₂ type -- N₂ base, CO ≤ 10%, CO/CO₂ > 4, H₂ ≤ 2%, O₂ ≤ 0.2%, H₂O ≤ 0.3%; and H₂-N₂ type -- N₂ base, H₂ 5-10%, O₂ ≤ 0.02%, H₂O ≤ 0.001%. Products and parts annealed in these media at 400-800°C retain purity of surface and display high mechanical properties. It was established that the most suitable protective atmosphere for Ni-base heat-resistant materials of the EI827, EI437B, EI867, EI868 and VZh36L2 types is an atmosphere of the H₂-N₂ type, of the following composition: 12-15% H₂, 0.001% H₂O, 0.006% O₂, with N₂ as the remainder. For heating Mo and W to 1300-1400°C it is advisable to employ a reducing atmosphere of the H₂-N₂ type with the composition: 75% H₂, 25% N₂, and 0.001% O₂, 0.001% H₂O (dew point -60°C). This atmosphere is obtained by the dissociation of ammonia. A neutral argon atmosphere with an O₂ content of 0.002% and moisture content of ≤ 0.001% is recommended for the heat treatment and hot pressing of Ta, Nb, Ti, Zr and their alloys. Currently the authors are testing a setup for the purification and drying of inert gases with recirculation (Fig. 1), which considerably reduces the consumption of these expensive gases and increases the degree of their purification. After the products are charged into airtight container K, valves 1 and 2 and 3 are adjusted to the position "blowdown." Following the blowdown of the con-

Card 3/4

L 13285-66
ACC NR: AP6001108

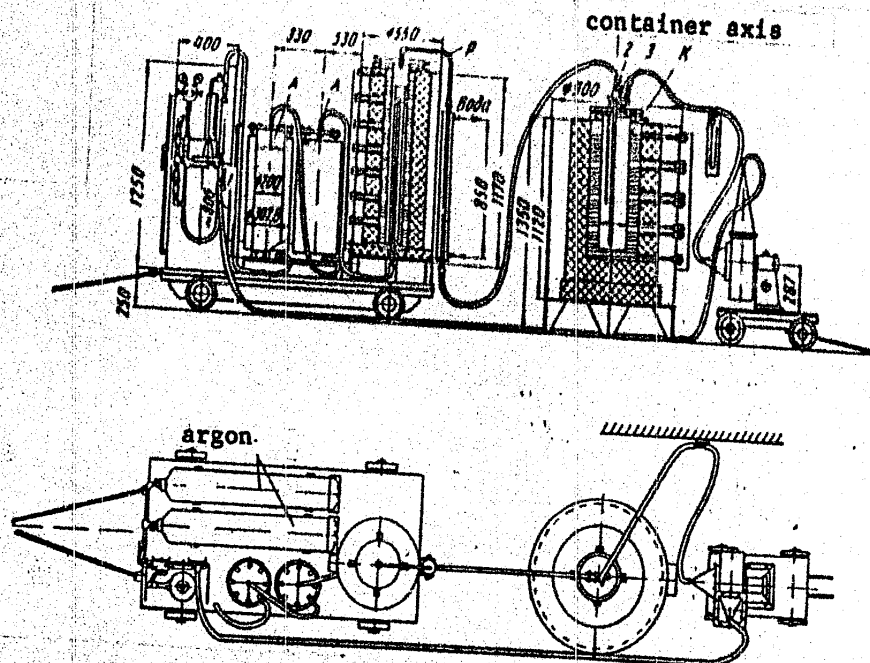


Fig. 1. Structural diagram of setup for purification and drying of inert gas (argon) with recirculation

Card 2/4

L 13285-66 EWT(m)/EWP(w)/EPF(n)-2/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) IJP(c)
 ACC NR: AP6001108 (A) SOURCE CODE: UR/0136/65/000/012/0082/0085

AUTHOR: Mal'tsev, M. V.; Morozov, L. N. MJW/JD/WW/HW/JG/WB

ORG: none

TITLE: Heat treatment of certain nonferrous, refractory and rare metals and alloys
in the presence of protective atmospheres

SOURCE: Tsvetnyye metally, no. 12, 1965, 82-85

TOPIC TAGS: protective atmosphere, inert gas, metal heat treatment, nonferrous metal, refractory metal

ABSTRACT: The selection of protective atmosphere for oxygen-free heating depends chiefly on the composition of the metal or alloy, the regime of heat treatment and the requirements for the quality of the metal surface. In affinity to oxygen (in order of increasing affinity) the elements are arranged as follows: Cu, Ni, Co, Mo, W, Fe, Cr, Mn, Si, V, Zr, Al, Be, Ti. According to their action on nonferrous metals and alloys, the gases contained in the combustion products of fuel or in the furnace atmosphere may be divided into three groups: oxidizing (O₂, CO₂, water vapor); reducing (CO, H₂); neutral (Ar, He). The heat treatment of individual metals and alloys in protective atmospheres does not always avert the formation of oxide films on the surface. In this connection it is worth noting that very thin oxide films (of the oxidation tint type)

Card 1/4

UDC: 669.2/.8:621.78

ACC NR: AP7005593

modification of the mill consists of sliding rollgangs for transporting workpieces from the charge chamber to the working stand and from the working stand to the unloading chamber, separated by vacuum locks. Orig. art. has; 1 figure. [MS]

SUB CODE: 13/ SUBM DATE: 09 Aug 63/ ATD PRESS: 5117

Card 2/2

ACC NR: AP7005593

(A)

SOURCE CODE: UR/0413/67/000/002/0006/0007

INVENTOR: Mal'tsev, M. V.; Yezerkiy, K. I.; Karsanov, G. V.; Sigalov, Yu. M.; Titkov, V. I.; Sokolov, V. M.; Bubnovskiy, B. G.; Novikov, O. K.; Dmitriyev, B. M.; Shmakov, Yu. V.; Loktionov, G. I.

ORG: none

TITLE: Vacuum rolling mill. Class 7, No. 190306

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 6-7

TOPIC TAGS: rolling mill, vacuum rolling ~~mill~~, continuous rolling ~~mill~~

ABSTRACT: This Author Certificate introduces a mill for continuous rolling in vacuum, consisting of a charge chamber, a working stand and an unloading chamber. The charge chamber is equipped with a mechanism which has frames with lifting bars located between the rollgang rollers. A modified mill is equipped with two-sectional, slotted driven screens located between the heating and the lifting-transporting devices in order to protect the latter from the action of high temperatures. A second

Card 1/2

UDC: 621.771.23

ACC NR: AM6019925

Ch. VII. Heat Treatment of Niobium and Its Alloys -- 213

1. Principal types of heat treatment and its purpose -- 213
2. Specific features of niobium heat treatment and the applied equipment -- 246

Ch. VIII. Machining of Niobium and Its Alloys -- 253

1. Some specific features of machining niobium and its alloys -- 253
2. Selection of tools and their geometric parameters. Procedure and conditions of machining niobium and its alloys -- 254

Ch. IX. Welding of Niobium and Its Alloys -- 267

1. Some specific features of welding niobium and its alloys -- 267
2. Automatic arc welding in shielding atmosphere -- 269
3. Electron-beam welding -- 274

Ch. X. Present State of Production and Use of Niobium and Its Alloys in Engineering -- 279

References -- 284

SUB CODE: 11/ SUBM DATE: 07Jan66/ ORIG REF: 092/ QTH REF: 0192/

Card 4/4

ACC NR: AM6019925

2. Interaction between niobium and interstitial impurities -- 44

Ch. III. Niobium-base Alloys -- 64

1. General information on interaction between niobium and various elements in the alloying process -- 65
2. Phase diagrams and properties of binary alloys -- 70
3. Present niobium alloys -- 109

Ch. IV. Obtaining Niobium Compacts by Powder Metallurgy Methods -- 130

1. Extraction of niobium by reduction with sodium -- 131
2. Extraction of niobium by reduction with carbon -- 145

Ch. V. Melting of Niobium and Its Alloys -- 153

1. Melting ingots in vacuum arc furnaces -- 153
2. Melting ingots in electron-beam furnaces -- 171

Ch. VI. Treatment of Niobium and Its Alloys Under Pressure -- 187

1. Some data on technological plasticity and thermomechanical parameters of deformation of niobium and its alloys -- 187
2. Technology of producing niobium and niobium alloy semifinished products -- 197

Card 3/4

ACC NR:AM6019925

Solov'yev, Candidate of technical sciences; Ch. V by V. Ya. Solov'yev; Ch. VI by M. V. Mal'tsev and V. Ya. Solov'yev; Ch. VII, VIII and IX by M. V. Mal'tsev; and Ch. X by A. I. Baykov and M. V. Mal'tsev, who also edited the entire book.

TABLE OF CONTENTS

Foreword -- 5

Introduction -- 7

Ch. I. Niobium and its Properties -- 9

1. Niobium physical and chemical constants -- 9
2. Niobium thermophysical properties -- 11
3. Niobium electric and magnetic properties -- 13
4. Niobium mechanical properties -- 14
5. Niobium oxidation resistance -- 19

Ch. II. Effect of Nonmetallic Impurities on the Structure and Properties of Niobium -- 38

1. General information on the effect of interstitial impurities on niobium properties -- 38

Card 2/4

ACC NR: AM6019925

Monograph

UR

Mal'tsev, Mikhail Vasil'yevich (Professor; Doctor of Technical Sciences);
 Baykov, Aleksey Ivanovich (Candidate of Technical Sciences); Solov'yev,
 Valentin YAKovlevich

Technology of the production of niobium and its alloy (Tekhnologiya
 proizvodstva niobiya i yego splavov) Moscow, Izd-vo "Metallurgiya",
 1966. 291 p. illus., biblio. 2100 copies printed.

TOPIC TAGES: niobium, niobium base alloy, metal property, metal physical
 property, metal chemical analysis, metal extracting, metal melting, metal welding,
 metal machining

PURPOSE AND COVERAGE: This book is intended for scientific workers of research
 institutes, design organizations and engineering personnel of plants
 engaged in niobium and niobium-base alloy production and use. The
 book reviews the physical, chemical and mechanical properties of
 niobium and niobium-base alloys. Technological problems of producing
 niobium and niobium-alloy semifinished and finished products are
 discussed and the principal fields of their use are indicated. Ch. I
 is written by A. I. Baykov, Candidate of technical sciences; Ch. II
 by A. I. Baykov with the participation of Professor and Doctor of
 technical sciences M. V. Mal'tsev; Ch. III by M. V. Mal'tsev with the
 participation of A. I. Baykov; Ch. IV by A. I. Baykov and V. Ya.

Card 1/4

UDC: 661.888

I. ASHLEY

ACC NR: AP6023642

oxidized twice as fast due to the presence of the denser Cr_2O_3 , absent in VT14 and VT16. Electron diffraction was used to analyze the scales. Chemical compositions of the scale formed at 1100°C for 4 hrs are given. In all alloys, the basic oxide composition was rutile-type titanium dioxide, having a tetragonal lattice with the parameters $a=4.58 \text{ \AA}$ and $c=2.95 \text{ \AA}$. All the oxides had a texture in which the $[001]$ direction lay in the plane of the sample. A texture formed at 700°C in VT15, at 800°C in VT14 and at 900°C in VT16. Microhardnesses of the surface layers are given as functions of distance from the surface for all temperatures. Micrographs of the oxidized surfaces are shown. For all alloys, the microhardness dropped sharply up to about 0.02 mm from the surface where the slope became more gradual; this indicated the depth of gas diffusion at the surface. The single phased alloy VT15 had a large-grained structure and the gas diffusion was more selective, as was similarly observed in the other alloys upon heating in the β -region. This selective attack increased the crack sensitivity and a fine network of cracks was observed upon deforming VT15 at high temperatures. Below 900°C , VT14 and VT16 had two-phased $\alpha+\beta$ structures and the oxidation attack was more uniform. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 11,57/ SUBM DATE: 200ct64

Card 2/2 *eq/L*

L 44399-66 EWT(m)/T/EWP(t)/ETI IJP(c) JD/BB

ACC NR: AP6023642

SOURCE CODE: UR/0149/66/000/002/0142/0146

AUTHOR: Mal'tsev, M. V.; Morozov, L. N.; Moiseyev, V. N.; Yefremov, Yu. N.;
Khorev, A. I.

ORG: none

TITLE: Comparative oxidizability of various types of titanium alloys upon heating
 in air

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 2, 1966, 142-146

TOPIC TAGS: titanium alloy, oxidation kinetics, phase composition, metallographic
 examination, temperature dependence, diffraction analysis, microhardening / VT14 ti-
 tanium alloy, VT15 titanium alloy, VT16 titanium alloy

ABSTRACT: A study was made of the oxidizability of titanium alloys VT14, VT15 and
 VT16, containing various amounts of β -phase. Alloy VT14 contained 4.45% Al, 2.7% Mo
 and 0.91% V; alloy VT15--3.43% Al, 7.3% Mo and 10.16% Cr; alloy VT16--3.08% Al and
 6.3% Mo. Samples (3 x 20 x 20 mm) were heated in air at temperatures ranging from 700
 to 1100°C for 10 to 240 min. Oxidizability was determined by the increase in weight
 per unit surface. The weight curves followed a parabolic law. While the oxidation
 rate was low for all alloys up to 900°C, above 1000°C it became intense. In compari-
 son with VT14 and VT16 ($\alpha+\beta$ -structure) the β -phase alloy VT15, beginning at 1000°C,

UDC: 620.193:669.295.5

Card 1/2

L 41024-66
ACC NR: AT6009602

segregations. By contrast, in Mo the atomic volume of the segregating interstitial phase per atom of metal is much greater than in the original solid solution, and hence coagulation of second-phase segregations is sharply inhibited, by virtue of thermodynamic considerations (hydrostatic pressure arising around the second-phase particle during its segregation). Hence, if the second-phase segregations are coagulated in Mo by some technique (e.g. special heat treatment) without relaxing the attendant local stresses, then conditions for the formation of microcracks during the plastic deformation of metal are created in these sites. As a result, one mechanism of high brittleness of Mo -- dispersion hardening -- is replaced by another, namely, by the presence in the metal of stressed microvolumes in which crack formation is more apt to occur. As proposed above, this explanation of the nature of the brittleness of Mo and its alloys, is in good agreement with experimental findings and clearly may be extended to other metals that are brittle in certain structural states and have a high modulus of elasticity and small dimensions of the atom: Cr, W and Be. Orig. art. has: 1 table.

SUB CODE: 11, 20, 13/ SUBM DATE: 26Sep64/ ORIG REF: 005/ OTH REF: 004

Card 3/3

hs

L 11024-66

ACC NR: AT6009602

2

action between dislocations and interstitial atoms should be maximal for metals of the VI group, and so should be the elastic stresses that arise in the matrix during the segregation of interstitial atoms on dislocation pile-ups or on grain boundaries. Hence, the decomposition of the solid solution, which in cast Mo localizes chiefly at the polygonization boundaries, and in deformed Mo, at high temperatures, both on the grain boundaries and in the grain interior, is accompanied by a type of hardening such that the metal is brittle in the sites where this decomposition takes place. There exist several theories of the mechanism of action of interstitial impurities. Of these, the most common is the theory attributing the high brittleness of metals in the VIA group to the formation, around the individual dislocations, of Cottrell atmospheres consisting of atoms of interstitial impurities which sharply reduce the mobility of dislocations. However, numerous experimental findings contradict this theory. In particular, it is widely known that the individual crystals into which a Mo ingot readily divides represent a supersaturated solid solution and at the same time display high plasticity. An interesting finding is, in this connection, presented by B. A. Movchan (Fizicheskiye i khimicheskiye neodnorodnosti v litom metalle. K., Gostekhizdat UkrSSR, 1960): the high brittleness of cast molybdenum may be largely explained by the formation of a network of polygonization boundaries during the cooling of the ingot. In ordinary dispersion-hardening alloys of the duraluminum type, the hardened state is unstable at high temperatures. Isothermal exposure is followed by the reaction: Guinier-Preston zones → dispersion segregations → coagulated second-phase

Card 2/3

L 41024-66 EWT(m)/ENP(w)/T/ENP(t)/ETI IJP(c) JT/JD/JG/GD

ACC NR: AT6009602

(N)

SOURCE CODE: UR/0000/65/000/000/0125/0130

AUTHOR: Mal'tsev, M. V.; Shulepov, V. I.

ORG: All-Union Institute of Light Alloys (Vsesoyuznyy institut legkikh splavov)

TITLE: Nature of the brittleness of molybdenum

SOURCE: AN UkrSSR. Fizicheskaya priroda khрупkogo razrusheniya metallov (Physical nature of brittle failure of metals). Kiev, Izd-vo Naukova dumka, 1965, 125-130

TOPIC TAGS: molybdenum^{metallurgy}, brittleness, crystal impurity, plasticity, phase composition, solid solution, plastic deformation, molybdenum compound

ABSTRACT: On the basis of a literature survey it is shown that molybdenum, a naturally plastic metal, becomes brittle at low temperatures if it contains even less than one-hundredth of a percent of interstitial impurities: carbon, oxygen, nitrogen and hydrogen, since then a considerable amount of second phase may still form. E.g. if a carbide of the Mo_6Mo_6C type segregates in Mo containing metal impurities, an 0.01% C impurity will form a second phase amounting to several vol.%. Clearly, in real metal there form even less compact compounds of Mo, interstitial impurities and metallic impurities -- oxycarbonitrides, whose volumetric content in equilibrium state at low temperatures may be quite substantial. The energy of inter-

Card 1/3

L 24473-66

ACC NR: AT6010576

4

containing interstitial impurities of carbon (0.01%) and oxygen (0.0015%) under optical and electron microscopes showed that the crystal is a single-phase solid solution of interstitial impurities in molybdenum. An entirely different picture is observed in cast molybdenum produced by arc melting. The decay of the solid solution in the ingots is localized on polygonization boundaries where the adjacent interstitial atoms are segregated. The compression stresses which arise at the interfaces tend to separate the crystals and are a cause of high brittleness in the cast metal. The polygonization single crystal in cast molybdenum is basically a saturated solid solution of interstitial impurities which decays only in widely scattered isolated sections. At the same time, the ductility of the polygonization single crystals is usually as high as in single crystals grown by zone melting. Various methods for increasing the ductility of cast molybdenum are discussed. Orig. art. has: 15 figures.

SUB CODE: 11,20/ SUBM DATE: 26Sep64/ ORIG REF: 001/ OTH REF: 000

Card 2/2

PB

L 24473-66 EWT(m)/T/EWP(t) IJP(c) JG/JD/GS

ACC NR: AT6010576 (N) SOURCE CODE: UR/0000/65/000/000/0083/0095

AUTHOR: Mal'tsev, M. V.; Shulepov, V. I.; Britnev, G. P.; Zhdannikova, V. N.; Dannelyan, T. A.; Popova, Yu. S.; Fedotov, E. I.; Sheynberg, B. N. 64
60
B+1

ORG: All-Union Institute of Light Alloys (Vsesoyuznyy institut legkikh splavov)

TITLE: Some data on the kinetics of the dissociation of a solid solution of interstitial impurities in cast molybdenum 27 18

SOURCE: AN UkrSSR. Mekhanizm plasticheskoy deformatsii metallov (Mechanism of the plastic deformation of metals). Kiev, Naukova dumka, 1965, 83-95

TOPIC TAGS: molybdenum, cast alloy, solid solution, crystal impurity, crystal lattice defect

ABSTRACT: The authors study the effect which the number and distribution of crystal lattice defects have on dissociation of a solid solution of interstitial impurities in molybdenum. The density and distribution of dislocations in cast molybdenum are determined principally by the parameters of the crystallization process (the rate of crystallization, temperature gradient in the liquid and solid metal etc.). An x-ray analysis of a molybdenum single crystal produced by electron-beam zone melting and

Card 1/2 2

YUFIN, Andrey Pavlovich. Prinimali uchastiye: CHERNOSKUTOV, K.A. inzh.;
ZHIVOTOVSKIY, L.S., dots., kand. tekhn. nauk; VOLNIN, B.A.,
dots., kand. tekhn. nauk; DOLGACHEV, F.M., dots., kand.
tekhn. nauk; FILIMONOVA, I.V., kand. tekhn. nauk; MAL'TSEV,
M.V., kand. tekhn. nauk; TARASOV, V.K., kand. tekhn. nauk;
KHOLIN, N.D., prof., retsenzent; OGORODNIKOV, S.P., dots.,
kand. tekhn. nauk, retsenzent

[Hydromechanization] Gidromekhanizatsiia. Moskva, Stroiizdat,
1965. 496 p. (MIRA 18:8)

DRITS, M.Ye., doktor tekhn. nauk, otv. red.; BOQIWAR, A.A., akademik, red.; BELOV, A.F., doktor tekhn. nauk, red.; DOBATEIN, V.I., doktor tekhn. nauk, red.; KAL'TSEN, M.V., doktor tekhn. nauk, red.; FRIDLYANDER, I.N., doktor tekhn. nauk, red.; SVIDERSKAYA, Z.A., kand. tekhn. nauk, red.; YELAGIN, V.I., kand. tekhn. nauk, red.; BARBANEL', R.I., kand. tekhn. nauk, red.; SHAROV, E.V., kand. tekhn. nauk, red.; KADANER, E.S., kand. tekhn. nauk, red.; TROKHOVA, V.F., red.; CHERNOV, A.N., red.

[Metallography of light alloys] Metallovedenie legkikh splavov. Moskva, Nauka, 1965. 226 p. (MIRA 18:10)

1. Moscow. Institut metallurgii.

MAL'TSEV, M.V.; NIKOLAYEV, A.N.; KHROMOV, V.G.

Determining the boundary angle of feed during the rotation of the
piston. *Trudy. mek. i av. 531-534* Ky '66.

(BIBL 32.5)

1. Gorkovskiy politehnicheskoy institut imeni Zhukova.

L 51026-5

ACCESSION NR: AR5017425

pressure is only slightly dependent on temperature in the interval investigated.

A. Leont'yev

SUB CODE: MM

ENCL: 00

Remains in vacuum

aurm
Card 2/2

61026-65 EWP(w)/EWP(w)/EWP(1)/EWP(2)/EWP(3)/EWP(4)/EWP(5)/EWP(6)/EWP(7)/EWP(8)/EWP(9)
 EWP(10) Jb/Jc Ps-4/PU-4
 ACCESSION NR: AR5017425 UR/0137/65/000/006/D006/D006
 SOURCE: Ref. zh. Metallurgiya, Abs. 6D30 57
 AUTHOR: Mal'gov, M. V.; Dolzhenkov, F. Ye.; Sigalov, Yu. M.; Volchek, 56
 F. R. B. P. Y. L. 74.35
 TITLE: Investigation of a process for rolling columbium in a vacuum 77.35
 CITED SOURCE: Zh. tr. Ukr. n.-i. in-t metallov, vyp. 10, 1964, 181-188 77.35
 TOPIC TAGS: columbium, metal rolling, hot rolling, temperature dependence, vacuum 77.35
 TRANSLATION: A study was made of the basic parameters of a process for rolling columbium in a vacuum and in air (spread, forward flow, friction coefficient, specific pressure, etc) over a wide range of temperatures from 300 to 1300C. It was established that the spread, friction coefficient, and specific pressure during rolling of columbium in a vacuum are slightly higher than during rolling in an air medium. The spread basically occurs as a result of barrel formation and of transition of the metal from the lateral faces to the contact faces. Specific
 Card 1/2

ZAKHAROV, Anatoliy Mikhaylovich, prof., doktor tekhn. nauk, red.;
MAL'TSEV, M.V., prof., doktor tekhn. nauk, ~~retsensent~~

[Diagrams of the constitution of binary and ternary systems]
Diagrammy sostoianii dvoynykh i troynykh sistem. Moskva,
Izd-vo Metallurgiya, 1964. 299 p. (MIRA 17:4)

PALATNIK, Lev Samoylovich; PAPIROV, Igor' Isaakovich; LEMMLEYN,
G.G., prof., retsenzent; CHERNOV, A.A., kand. fiz.-mat.
nauk, retsenzent; MAL'TSEV, M.V., prof., retsenzent;
CHISTYAKOV, Yu.D., dots., kand. tekhn. nauk, nauchn.red.

[Oriented crystallization] Orientirovannaia kristallizatsiia.
Moskva, Metallurgii, 1964. 407 p. (MIRA 17:12)

L 23563-65

AM4045253

4. Modifying titanium alloys - - 147
Ch. IV. Modifying the eutectic structure (Type III modification) - - 151
1. Certain special characteristics of the crystallization and structure of
eutectics - - 151
2. Modifying siluminas - - 155
3. Modifying low-melting eutectics in copper alloys - - 185
Literature - - 207

SUB CODE: MM

SUBMITTED: 24Dec63

NR REF SOV: 131

OTHER: 076

DATE ACQ: 12Aug64

Cont 3/3

L 23563-65

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TABLE OF CONTENTS:

Foreword - - 3

Ch. I. Certain theoretical bases of modification processes - - 5

1. Contemporary concepts of the crystallization of metals and alloys - - 5

2. Structure of an actual metallic ingot and its defects - - 18

3. Basic concepts concerning modification. Classification of individual types of modification - - 27

Ch. II. Change in dimensions of primary grain-dendrites (Type I modification) -

1. Grain refinement of aluminum and its alloys - - 37 - 37

2. Grain refinement of magnesium and its alloys - - 83

3. Grain refinement of copper and its alloys - - 95

4. Grain refinement of titanium and its alloys - - 111

5. Refinement of the austenitic grain in steels - - 116

Ch. III. Change in internal structure of grain-dendrites (Type II modification) - - 121

1. Certain special characteristics of dendrite crystallization - - 121

2. Modifying aluminum alloys with magnesium - - 132

3. Modifying aluminum alloys with copper - - 145

Card 2/3

L 23563-65 EPA(a) 2/EWT(m)/EPT(n)-2/EPR/T/ENP(c)/ENP(b) Ps-4/Pt-10/Pu-4
 EPT(c) JD/WW/JG
 AM4045253
 BOOK EXPLOITATION S/

Valitsev, Mikhail /asil'yevich

Modifying the structure of metals and alloys (Modifitsirovaniye struktury metal-
 lov i splavov) Moscow, Izd-vo Metallurgiya, 1964. 212 p., illus., biblio.
 2800 copies print-1. Reviewers: Professor V. I. Dobatkin, Doctor of Technical
 Sciences, N. B. Al'tman, Doctor of Technical Sciences; Editor: V. N. Vigdoro-
 vich; Editor of the publishing house: G. A. Iutskaia; Technical editor: A. I.
 Karasov

TOPIC TAGS: aluminum, aluminum alloy, austenite, copper, copper alloy, eutectic,
 magnesium, magnesium alloy, titanium, titanium alloy, grain refinement, alloy
 modification, aluminum

PURPOSE AND COVERAGE: This book was written for plant personnel and the staffs of
 scientific-research institutes in the metallurgical and machine-building indus-
 tries. Problems in the theory and practice of modifying metals and alloys are
 presented.

Card 1/3

DRITS, M.Ye.; MAL'TSEV, M.V.; SVIDERSKAYA, Z.A.; PADEZHNOVA, Ye.M.;
TROKHOVA, V.F.

Effect of additional alloying on the properties of alloys in
the system Mg - Th - Mn. Issl. splav. tsvet. met. no.3:86-92
'62. (MIRA 15:8)
(Magnesium-thorium-manganese alloys)

Addition materials for ...

S/697/61/000/000/016/018
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of the welded seam and thus expand the employment of Ti alloys in the production of welded structures. There are 4 figures, 1 table and 3 Soviet-bloc references.

Card 3/3

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D228/D303

Addition materials for ...

and B. Data on the macrostructure of cast alloy specimens are then cited. They suggest that the introduction of small amounts of B and B-Zr ($\ll 0.1\%$) decreases the grain size of the alloys. But this does not happen on the addition of Re and Ce, which instead causes marked granulation in the β -phase decay products. A table gives the mechanical properties of annealed alloys; it is noted that the introduction of B and B-Zr greatly strengthens Ti-Al-Nb alloy, as does the addition of Re to Ti-Al-Mo alloy. Turning to the question of the alloys' behavior during welding and plastic deformation, the authors adduce graphs to illustrate their experimental observations. These indicate that the addition of Re greatly enhances the plasticity of the welded seam in both types of alloy: The seam's bending angle is thereby increased by approx. threefold. Here Re is believed to stabilize the β -phase. The authors conclude from the results of their research that three kinds of Ti-base alloy can be employed as addition materials: 1) with Al 3, Nb 5, and Re 0.1%; 2) with Al 3, Mo 4, and Re 0.05-0.1%; and 3) with Al 5, Nb 5, and B 0.05%. The application of such materials will raise the quality

Card 2/3